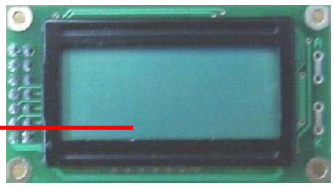
Everywhere you imagine. RENESAS

QuickStart

Renesas Starter Kit for R8C/25

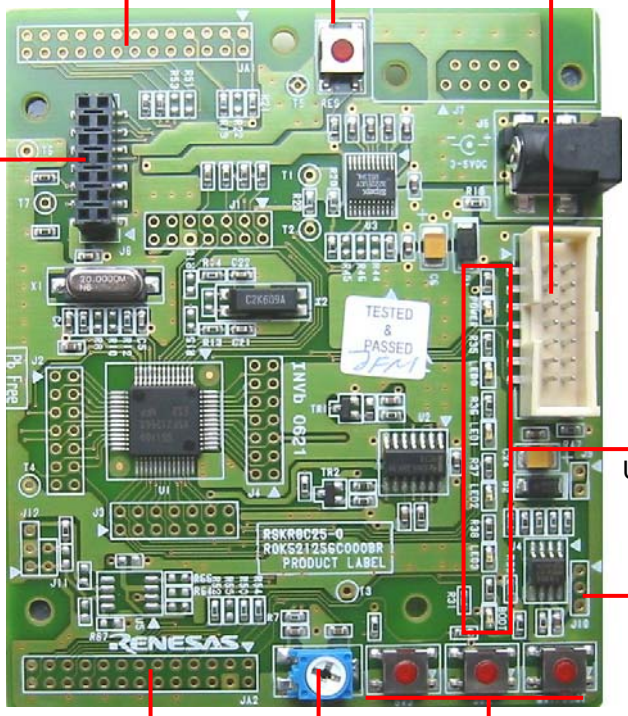


LCD module

Application Board Interface

Reset switch

E8 header



LCD module connector

User LEDs

E8a debugger module

LIN connector

Application Board Interface

Analogue adjust

User switches

1. Installation

Do not connect the E8a module until the software support has been installed.

1. Insert the CD into your computer's CD-ROM drive. The CD should automatically run the installation program. If the installer does not start, browse to the RSK directory from the CD root folder and double click on 'setup.exe'.
2. The installer will ask you which language is to be used, please choose the appropriate one.
3. On the first screen of the installer proper, click <Next>.
4. The License Agreement will be shown, click <Yes>.
5. The next screen asks you to pick the world region – please select and click <Next>.
6. Select the RSK you wish to install and click <Next> to continue.
7. The destination folders are specified on the next screens. It is recommended to accept the default settings. Click <Next> to continue.
8. Click <Next> on all screens until the Installation process commences.
9. After the installation the machine's site code will be shown, this is not important at this stage, click <Next> then <Finish>.
10. The Auto-update dialog box will be launched. Configure the Auto-update settings dialog to allow the installation to be checked for available updates.

2. Connection

11. Now connect the E8a to J6 on the CPU board using the ribbon cable, also connect the LCD module to J8 on the CPU board ensuring that the pin 1 designation corresponds to the marking on the CPU board.
12. Connect the E8a module to a spare USB port.
    The "Found New Hardware" Wizard will appear. Please follow the steps below to install the drivers. Note that administrator privileges are required for a Windows™ 2000/XP machine. Do not use Windows Update to locate the correct driver.

13. Verify the "Recommended" option is selected and click <Next>.
14. If using Windows XP, skip to step 16; otherwise click <Next>.
15. Click <Next> to install the driver.
16. Click <Finish> to close the wizard.

Note: The Windows driver signing dialog may be displayed. Please accept the driver to continue.

3. High-performance Embedded Workshop Workspace

High-performance Embedded Workshop integrates various tools such as compiler, assembler, debugger and editor into a common graphical user interface. To learn more on how to user High-performance Embedded Workshop, open the High-performance Embedded Workshop manual installed on your computer (Start Menu > All Programs > Renesas > High-performance Embedded Workshop > Manual Navigator).

17. Launch High-performance Embedded Workshop from the Start Menu. (Start Menu > All Programs > Renesas > High-performance Embedded Workshop > High-performance Embedded Workshop)
18. In the “Welcome” dialog box: Verify “Create New Workspace” is selected. Click <OK>.
19. In the “New Project Workspace” dialog box: Set the “CPU Family” to “M16C”, and verify the “Tool chain” is set to “Renesas M16C Standard”. Select “E8A_RSKR8C25” from the left hand pane.
20. Enter a name for the workspace. The project name will be automatically completed with the Workspace name. You can change this name to “Tutorial” if required. Click <OK>.
21. On the “E8A_RSKR8C25- Step 1” window: Select “Tutorial” and click <Next>.
22. On the “E8A_RSKR8C25- Step 2” window: Click <Finish>.
23. On the Project Generator Information window: Click <OK>.

The project that is created has two configurations. The Release configuration can be used for the final release code version. The Debug configuration allows modifications to the configuration for debugging.

24. Select the Debug build configuration in the left hand drop down list on the toolbar.

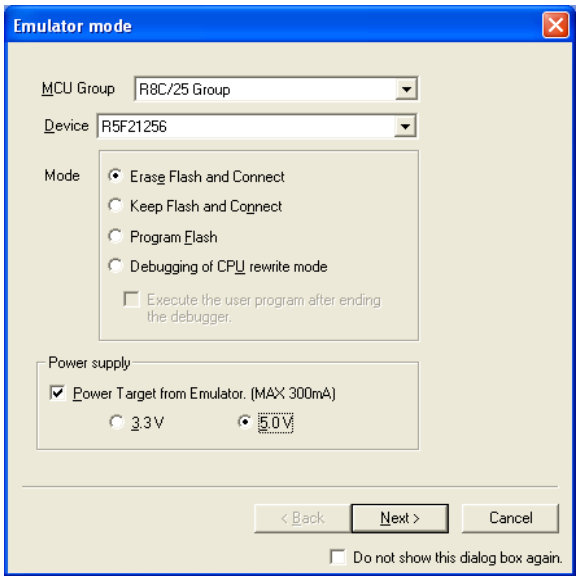
25. Click on the “Build” icon to compile, assemble and link the project.

4. Programming and Debug

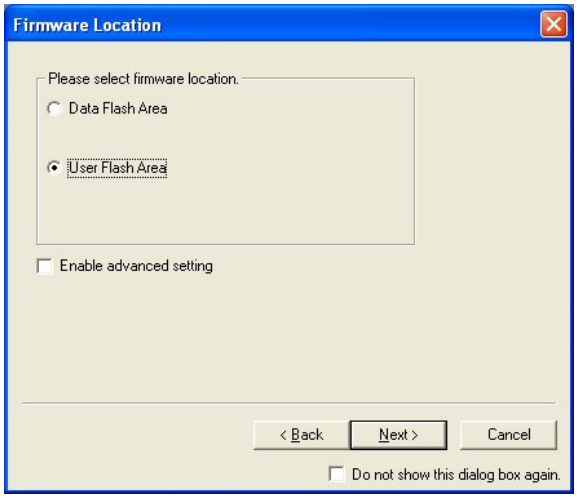
26. Ensure the “SessionR8C_E8a_SYSTEM” session in the right hand drop down list on the toolbar is selected.

27. Click the <Connect> button on the debug toolbar.

28. The “Emulator mode” wizard will be shown.
    Select the correct MCU group (R8C/25) and device.
    (e.g. R5F21256 for RSKR8C25).
    Please note that the “Emulator mode” view shown here will only appear the FIRST time you connect to the target within a project. On subsequent connections the “Emulator setting” dialog will appear, please choose the same options to connect – refer to the RSKM16C25 Tutorial manual for details.
29. Select “Erase Flash and Connect”.
    If the E8a is to provide power to the CPU board, select “Power Target from Emulator” and choose the “5.0V” option. Otherwise connect a 5V centre positive supply.
30. Click <Next>

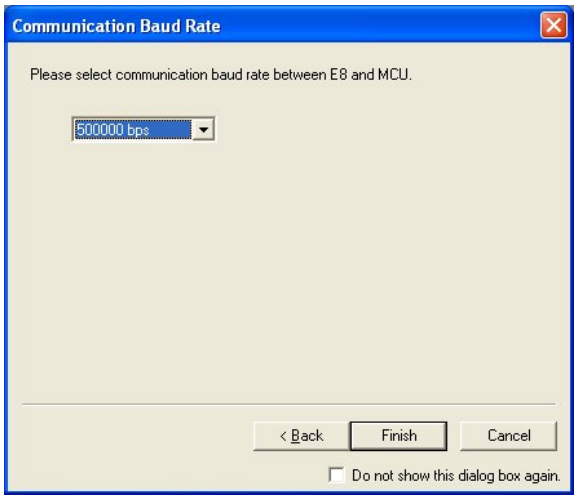


31. Set the firmware location to “User Flash Area”. Clear the “Enable advanced setting” checkbox.



32. Click <Next>.

33. The “Communication Baud Rate” options will be shown. Leave the default options as shown.



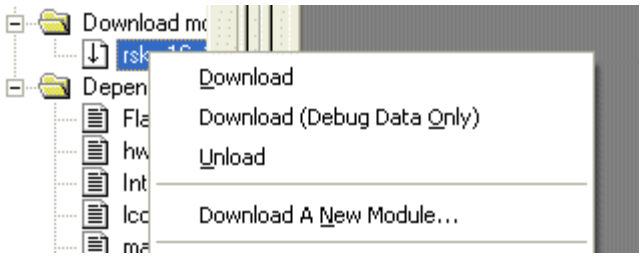
34. Click <Finish>.

Note: The first time the E8a is connected, you may be asked to choose a driver, select “Renesas Communications”, after a few seconds the “Interface” and “Channel” numbers will be automatically displayed, click <Close> on the dialog.

Otherwise skip to the next step.

35. Accept any dialogue warning that an older or newer version of E8a firmware is necessary to work with the application. Allow download of firmware to complete, this may take several seconds.

36. The connection to the Renesas Starter Kit will be completed and will activate the debugger buttons on the High-performance Embedded Workshop toolbar.



37. Right click on the download module listed in the left hand pane and select “Download”.
The code will be downloaded to the microcontroller. This may take several seconds.
When the message “Flash memory write end” appears in the Debug view at the bottom of the screen then the process is complete.

38. Click the <Reset Go> button.
The code will run and you will see the LEDs flash on the board.

39. Click the <Stop> button.

The code will stop and the source code will be opened at the current program counter.

5. Next Step

After you have completed this quick start procedure, please review the tutorial code and sample code that came with the kit. You can add projects to the current workspace by selecting (Project > Insert Project) from the main menu. The tutorials will help you understand the device and development process using Renesas Development Tools.
The Hardware manual supplied with this Renesas Starter Kit is current at the time of publication. Please check for any updates to the device manual from the Renesas website at: www.renesas.com/renesas_starter_kits

6. Renesas M16C Compiler

The version of the compiler provided with this Renesas Starter Kit is fully functional but time limited. You have 60 days to evaluate the full product before the compiler will limit the code linker to 64k bytes. Full licensed M16C compiler versions are available from your Renesas supplier.

7. Support

Online technical support and information is available at: www.renesas.com/renesas_starter_kits

Technical Contact Details
America: techsupport.rta@renesas.com
Europe: tools.support.eu@renesas.com
Japan: csc@renesas.com

Note on Autoupdate: The Autoupdater is configured to automatically add itself to the Startup folder in the Windows Start Menu and use the registry defaults for access to the web. After restarting the machine the Icon will appear in the System Tray next to the clock. To change the settings or access Autoupdate simply right-click on the icon and use the menu that appears.

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